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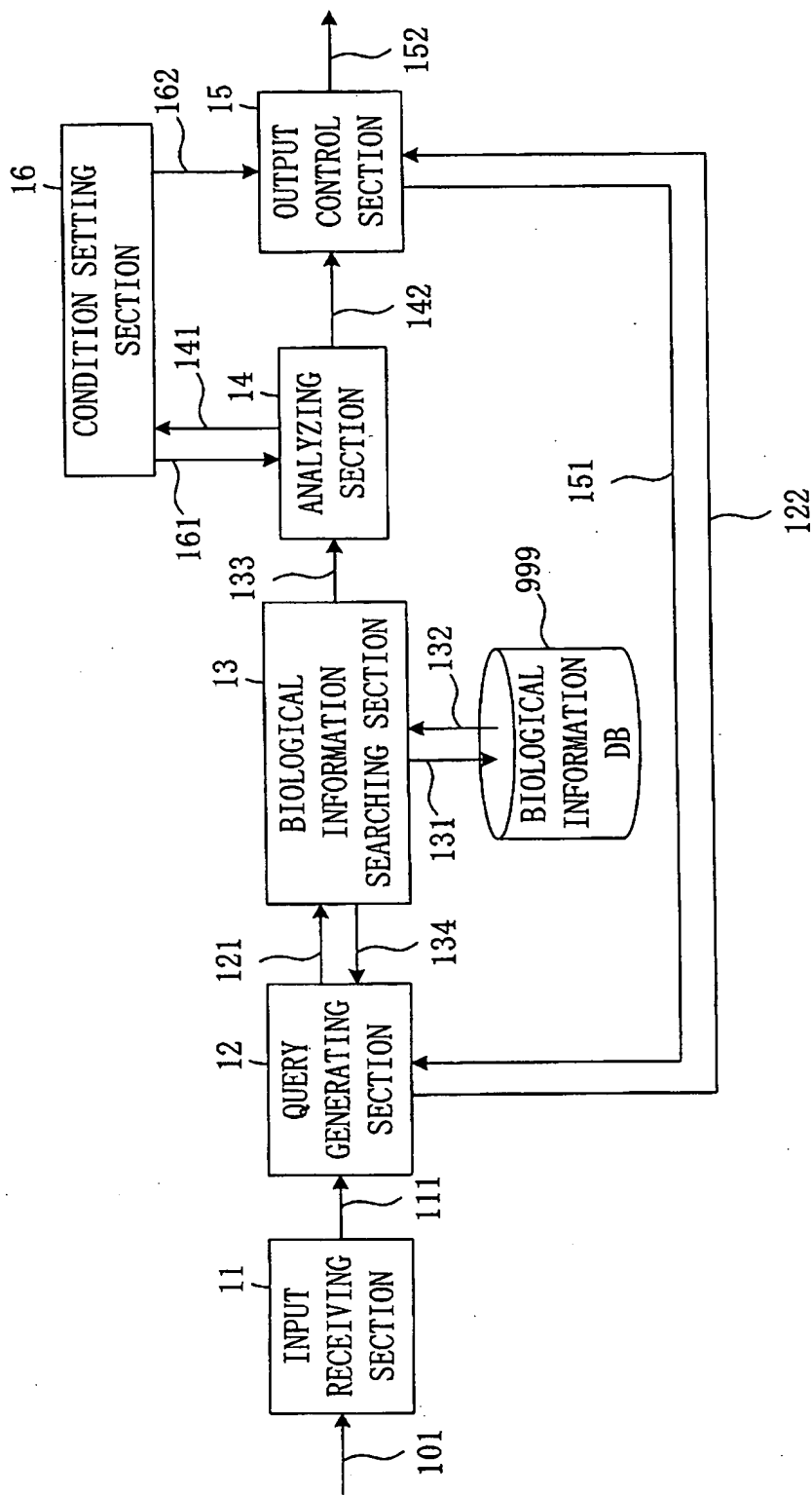


FIG. 1

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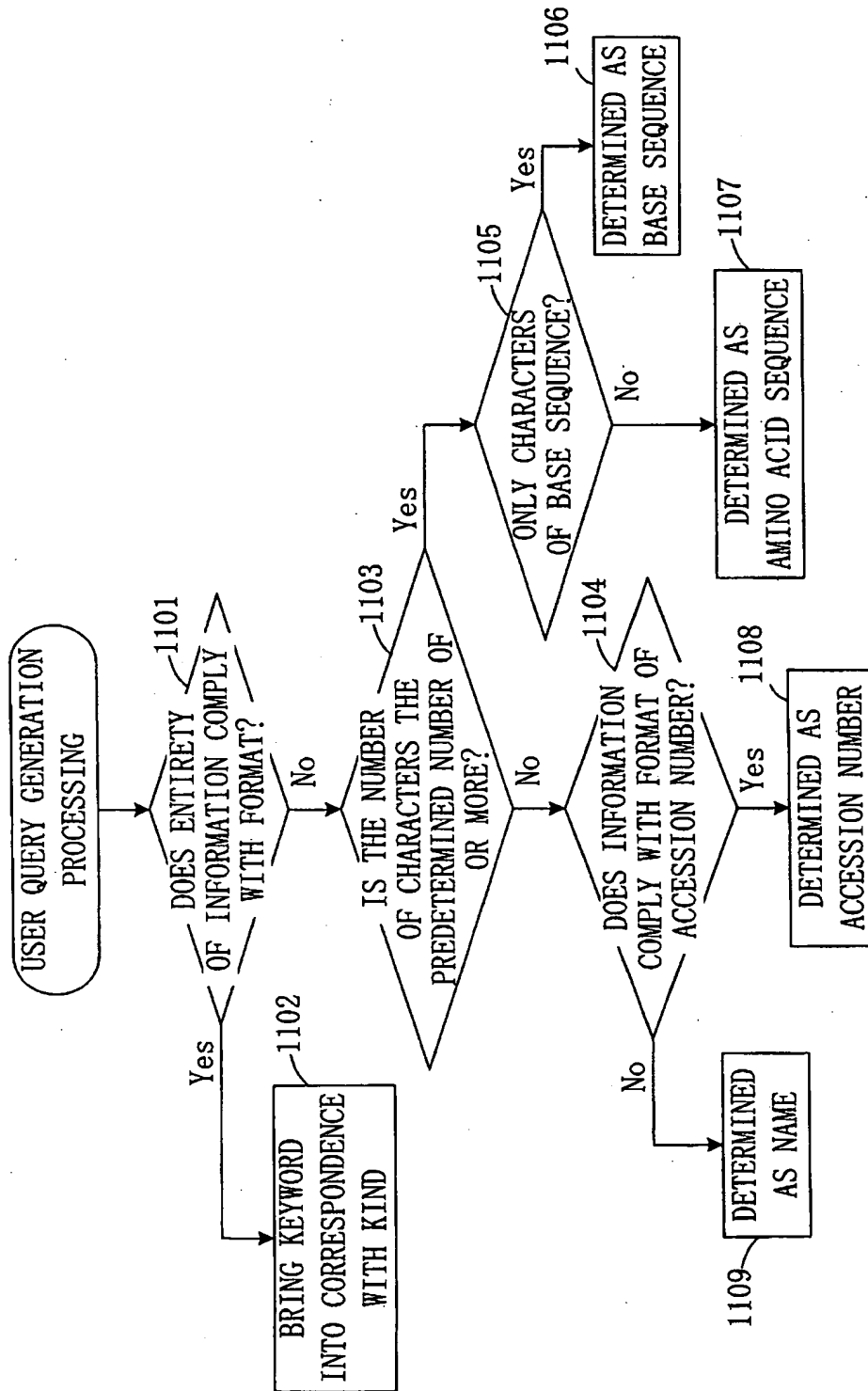


FIG. 2

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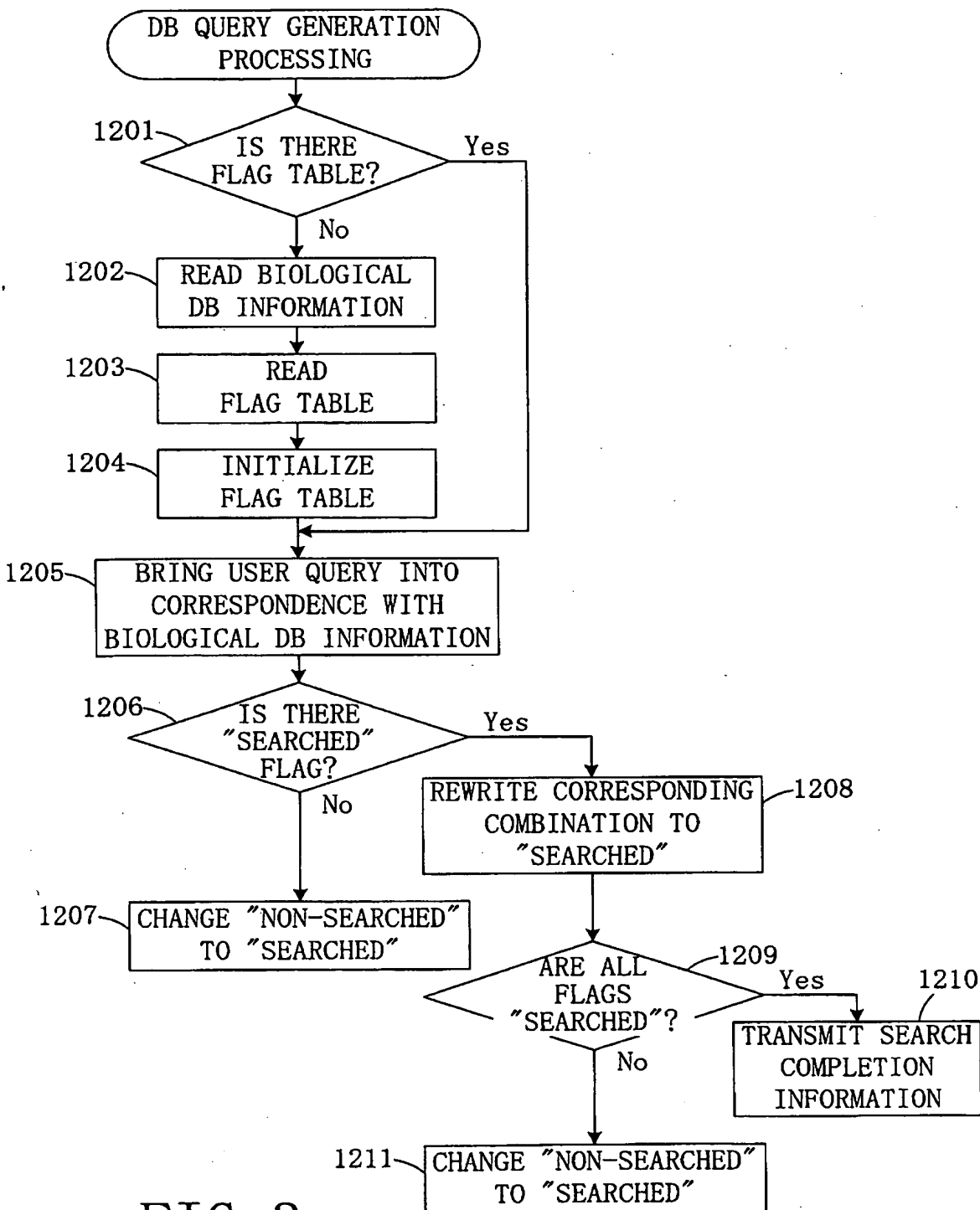


FIG. 3

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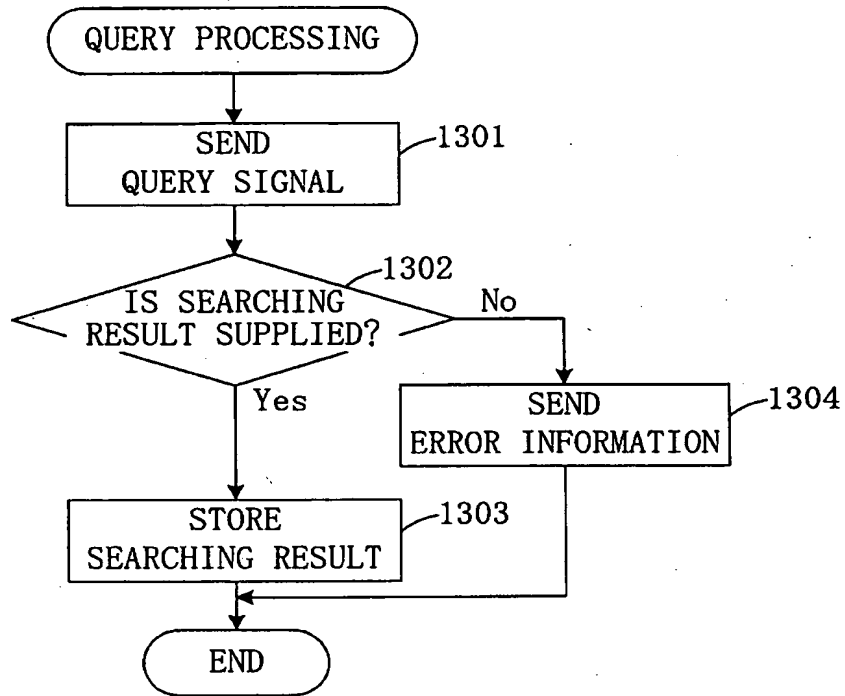


FIG. 4

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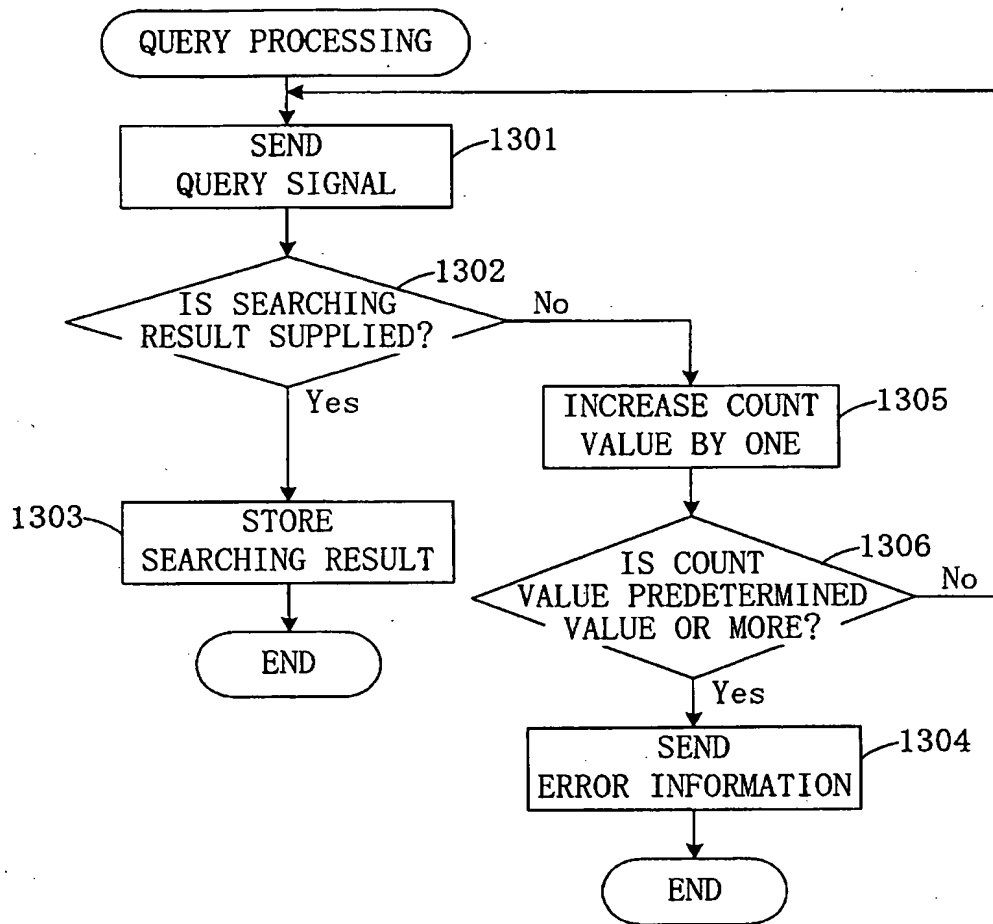


FIG. 5

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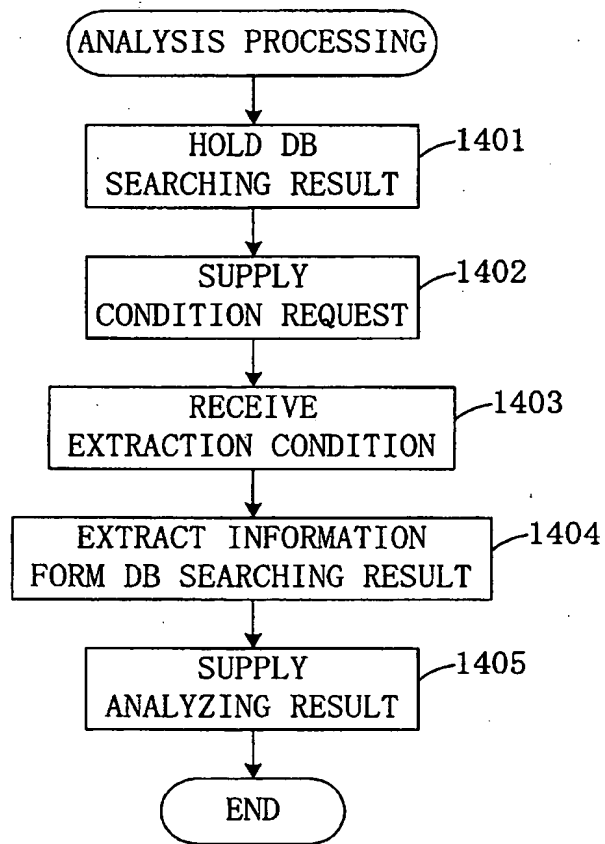


FIG. 6

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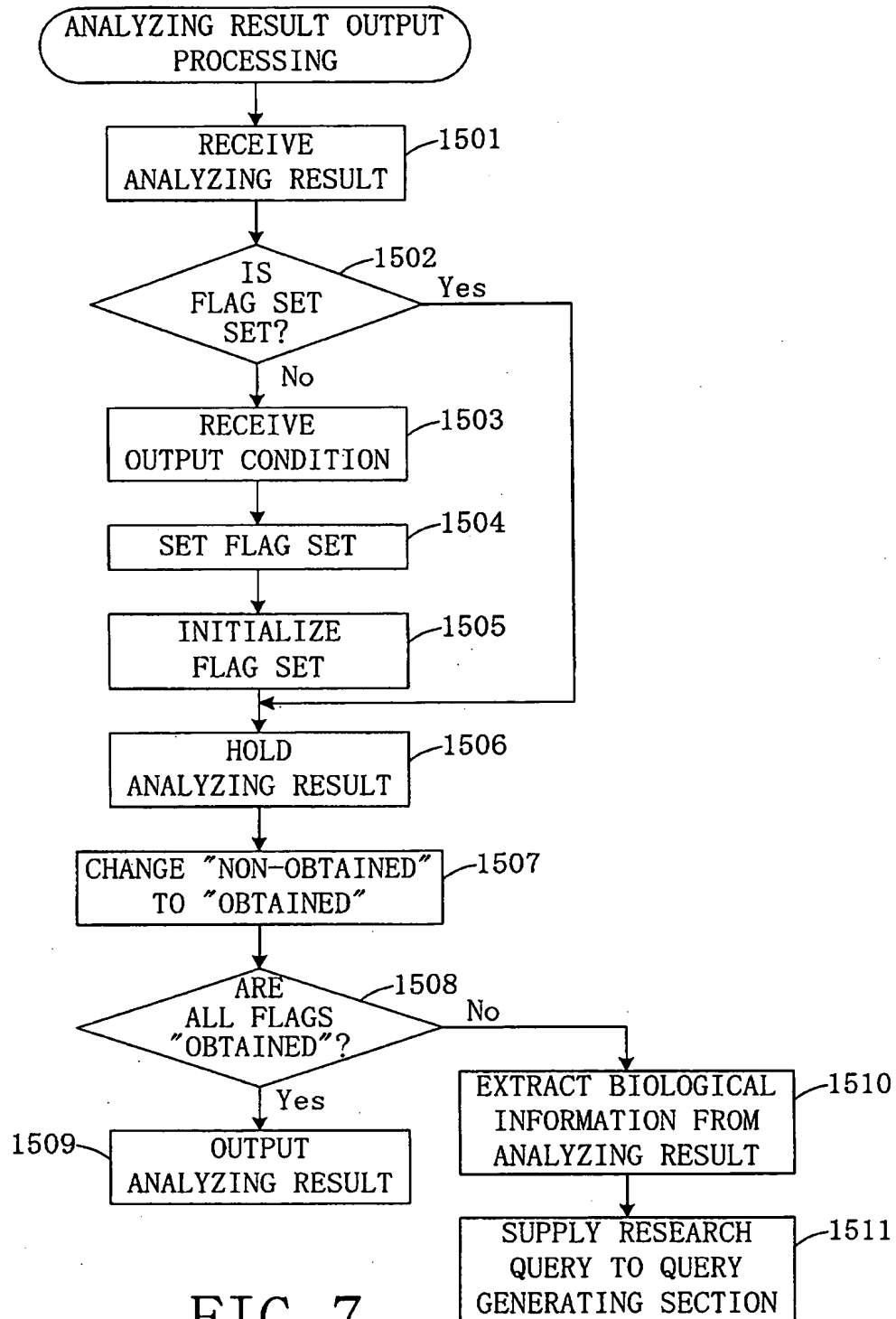


FIG. 7

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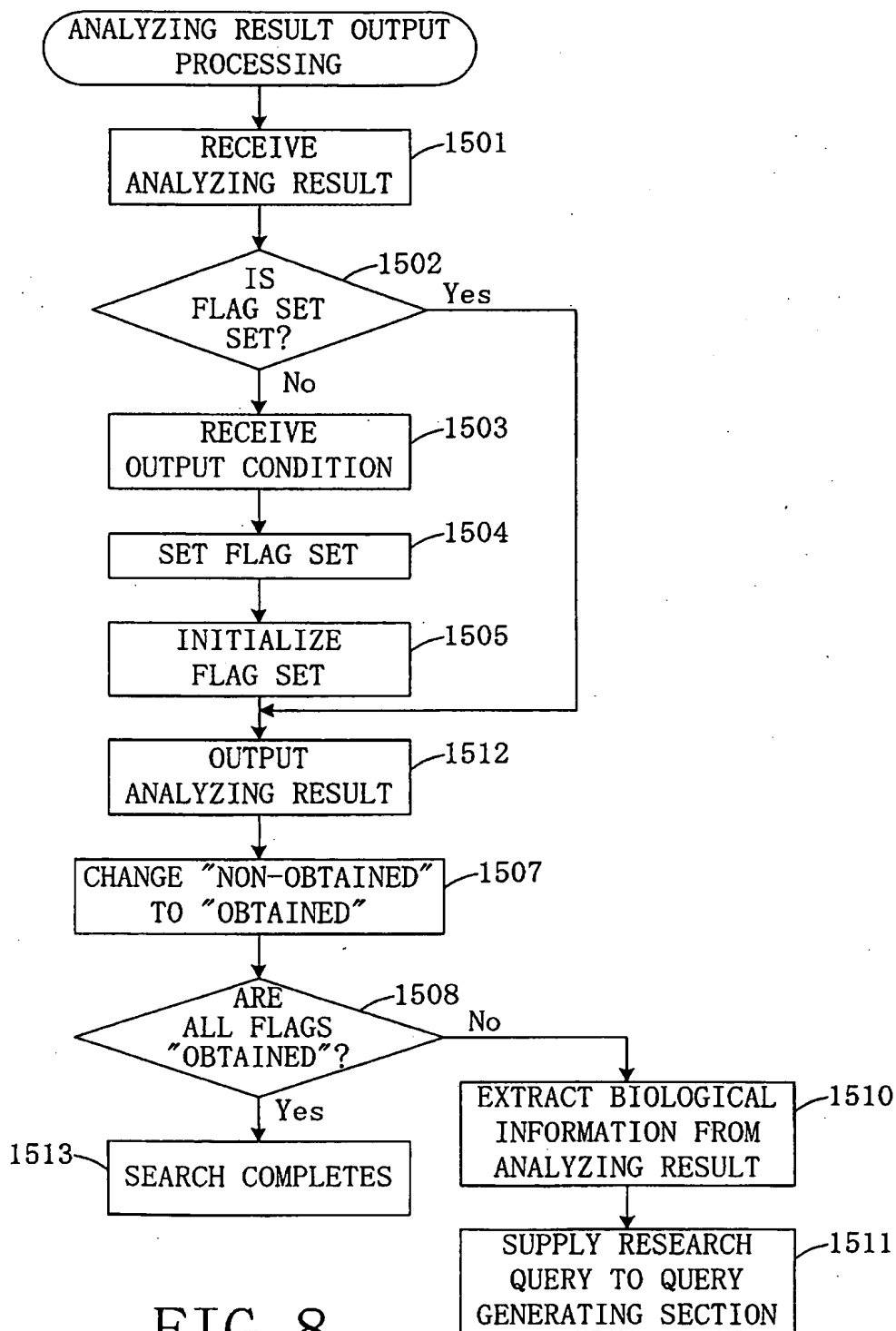


FIG. 8

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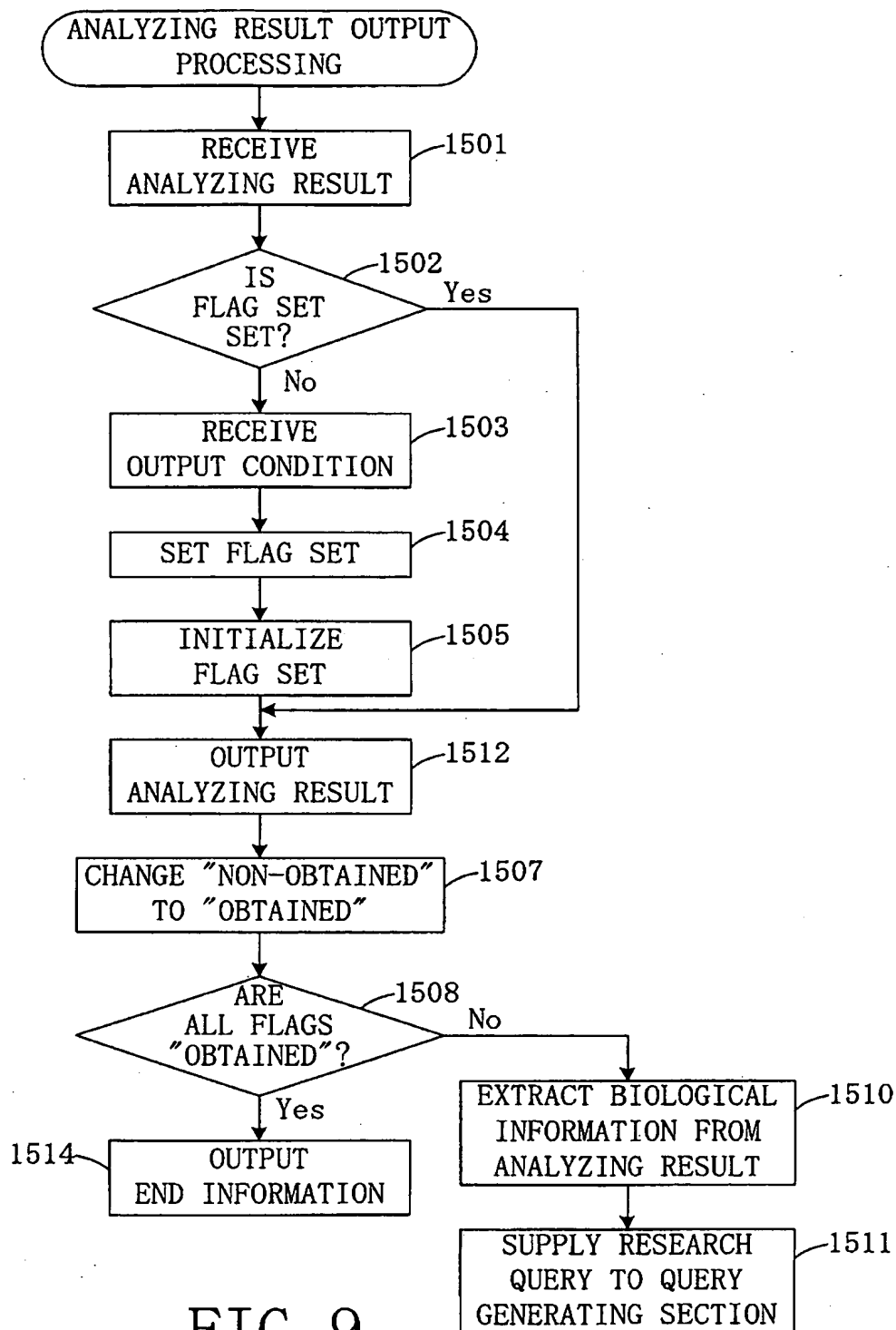


FIG. 9

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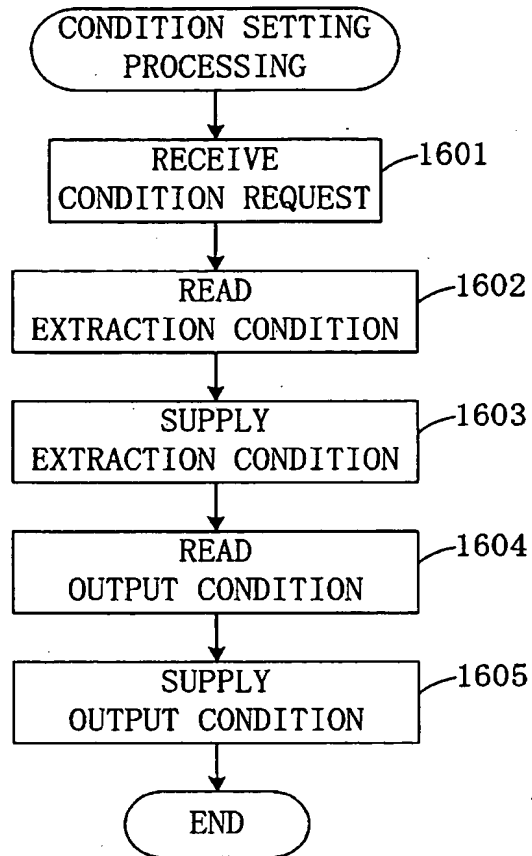


FIG. 10

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Input form

Protein or gene name

Accession No. ☐ protein ☐ gene

Sequence

☐ amino acid ☐ gene

FIG. 11

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EXTRACT AS BYNAME

<input type="checkbox"/> 5172	Hs	SLC26A4; solute carrier family 26, member 4	7q31	■■■■■
	Aliases:	PDS, DFNB4, PENDRIN		
	OMIM:	605648		
	RefSeq[R]:	NM_000441		
	Nucleotide:	AC002467, AF030880		
	Protein:	AAB88773, AAC51873, NP_000432		
<input type="checkbox"/> 23985	Mm	Slc26a4 solute carrier family 26, member 4	12 B1	■ ■■■
	Aliases:	Pds		
	RefSeq:	NM_011867		
	Nucleotide:	AF167411		
	Protein:	AAD51617, NP_035997		
<input type="checkbox"/> 29400	Rn	Slc26a4 solute carrier family 26, member 4	6q16	■ ■■■
	Aliases:	Pds		
	RefSeq:	NM_019214		
	Nucleotide:	AF167412		
	Protein:	AAD51618, NP_062087		
<input type="checkbox"/> 65010	Hs	SLC26A6 solute carrier family 26, member 6	3p21.3	■ ■■■
	Aliases:	DKFZp586E1422		
	RefSeq[R]:	NM_022911, NM_134263, NM_134426		
	Nucleotide:	AB033288, AB102713, AF279265, AF288410, AF416721, AK066237, AL050170, BC017697,		
	Protein:	AAF81911, AAH17697, AAK19153, AAN07094, BAB69041, BAB71126, BAC56861, CAB43308, NP_075062, NP_599025, NP_602298		

FIG. 12

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- | | ACCESSION NUMBER | GI NUMBER |
|------------------------------|---|-----------|
| <input type="checkbox"/> 1. | NT_039548
Mus musculus chromosome 12 genomic contig. strain C57BL/6J
gi 28520880 ref NT_039548.1 Mm12.39588.30[28520880] | |
| <input type="checkbox"/> 2. | NW_043944
Rattus norvegicus chromosome 6 WGS supercontig
gi 26007775 ref NW_043944.1 Rn6.1303[26007775] | |
| <input type="checkbox"/> 3. | NM_134428
Homo sapiens solute carrier family 26, member 6 (SLC28A6), transcript variant 3, mRNA
gi 20338278 ref NM_134428.1 [20338278] | |
| <input type="checkbox"/> 35. | A1916698
tu89g11 x1 NCLCGAP_Gas4 Homo sapiens cDNA clone IMAGE:2258276 3' similar to TRO43511 O43511 PENDRIN. mRNA sequence
gi 5636553 gb A1916698.1 [5636553] | |
| <input type="checkbox"/> 36. | A1747481
u115h05. x1 Sugano mouse embryo mewa Mus musculus cDNA clone IMAGE:2076921 3' similar to TRO43511 O43511 PENDRIN. mRNA sequence
gi 5125725 gb A1747481.1 [5125725] | |
| <input type="checkbox"/> 37. | AF030880
Homo sapiens pendrin (PDS) mRNA, complete cds
gi 2654004 gb AF030880.1 AF030880[2654004] | |

FIG. 13

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LOCUS AF030880 4930 bp mRNA linear PR1 01-DEC-1997
DEFINITION Homo sapiens pendrin (PDS) mRNA, complete cds.
ACCESSION AF030880
VERSION AF030880.1 GI:2654004
KEYWORDS
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE 1 (bases 1 to 4930)
AUTHORS Ever L.A., Glase, B., Beck, C.J., Idos, J.R., Heym, M.
TITLE Pendred syndrome by mutations in a putative suophate transporter gene (PDS)
JOURNAL Gene 21 (3), 512-532 (1999)
MEDLINE 9750948
PUBMED 893590
REFERENCE 2 (bases 1 to 4920)
AUTHORS Ever L.A., Glase, B., Beck, C.J., Idos, J.R., Heym, M.
TITLE Direct Submission
JOURNAL Submitted (21-SEP-1998) AA Technology Branch, National Institutes

FEATYRES
source

Location/Qualifiers
1..4930
/organism="Homo sapiens"
/db_xref="taxon:9606"
/chromosome="7"
/map="7q22-q31.1"

EXTRACT AS BYNAME

gene

1..4930
/gene="PDS"

CDS

225..2567
/gene="PDS"

/function="putatibe sulfate transporter"
/note="mutated in Pendred syndrome"
/codon_start=1
/product="pendrin"
/protein_id="AAL57073.1"
/db_xref="GI:2654005"

EXTRACT AS AMINO
ACID SEQUENCE

/translation="MAAPGCRSEPPQLPEYSCSYMVSRPVYSELAFQQQHERRLQERK
TLRESLAKCCSCRKRAFGLVLTLPVLEWLPKYRVKEWLLSDVVISGVSTGLVATLQG

EELDIPTKEIEIQVDWNSLPVKVNPVKVPIHSLVLDCCGAISFLDVVGVRSLRVIVKE
FQRIDVNVYFASLQDYVIEKLEQCGFFDDNIRKDTFFLTVHOAILYLQNQVKSQECQG
SILEITILIQDCKDTLELIETELTEEELDVQDEAMRTLAS"

BASE COUNT 1454 A 937 C 1082 G 1457 T

ORIGIN

1 ctcagccttc cgggttcggg aaaggggaag aatgcaggag gggtaggatt tctttcctga
61 taggatcggg tgggaaagac cgcagcctgt gtgtgtcttt cccttegacc aagggtgtctg
121 ttgtccgta aataaaacgt cccactgcct tctgagagcg ctataaaggc agcggaaggg
.
.
4801 tccagtattg tatatgagtt ttaacaaatt aaaaaatcaa atcatgtaca ttgaaaaata
4861 ttgacacaca tttaaaaata aatgtaaagt tgtcttttaa actactcgga tgtgtccttt
4921 ctgaacaaaa

EXTRACT AS BASE SEQUENCE

FIG. 14

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BLASTP 2.2.3 [Apr-12-2000]

Sequences producing significant alignments:

Score E
(bits) Value

ref NP_000432.1 pendrin [Homo sapiens] >gi 11421915 ref XP_0049...	1229	0.0
ref NP_062087.1 pendrin: Pandred syndrome homolog (human) [Ratt...	1101	0.0
ref NP_035997.1 pendrin: Pandred's syndrome [mus musculus] > gi ...	1098	0.0

...

pir B82127 sulfate permease family protein VC2031 [imported]...	35	2.8
emb CAB62519.1 (AL050358) hypothetical protein [Homo sapiens]	34	3.6
pir T16622 hypothetical prtein K02E10.2 - Caenorhabditis alega...	34	4.7

>ref|NP_000432.1| pendrin [Homo sapiens] EXTRACT AS NAME
ref|XP_004953.1| pendrin [Homo sapiens]
sp|043511|PEND_HUMAN PENDRIN (SODIUM-INDEPENDENT CHLORIDE/100IDE TRANSPORTER)
gb|AA51873.1| (AF030880) pendrin [Homo sapiens]
Length = 780

Score = 1229 bits (3180), Expect = 0.0
Identities = 649/780 (83%), Positives = 649/780 (83%)

Query: 1 MAAPGGRSEPPQLPEYSCSYMVRPVSSELAFAQQQMERRLQERKTLRESLAKCCCSRKR 60
MAAPGGRSEPPQLPEYSCSYMVRPVSSELAFAQQQHERRLQERKTLRESLAKCCCSRKR
Sbjct: 1 MAAPGGRSEPPQLPEYSCSYMVRPVSSELAFAQQQHERRLQERKTLRESLAKCCCSRKR 60

...

Query: 721 TVHDAILYLQNQVKSQEGGGSILETITLIQDCKDXXXXXXXXXXXXXDVQDEAMRTLAS 780
TVHDAILYLQNQVKSQEGGGSILETITLIQDCKD DVQDEAMRTLAS
Sbjct: 721 TVHDAILYLQNQVKSQEGGGSILETITLIQDCKDTLELIETELTEELDVQDEAMRTLAS 780

FIG. 15

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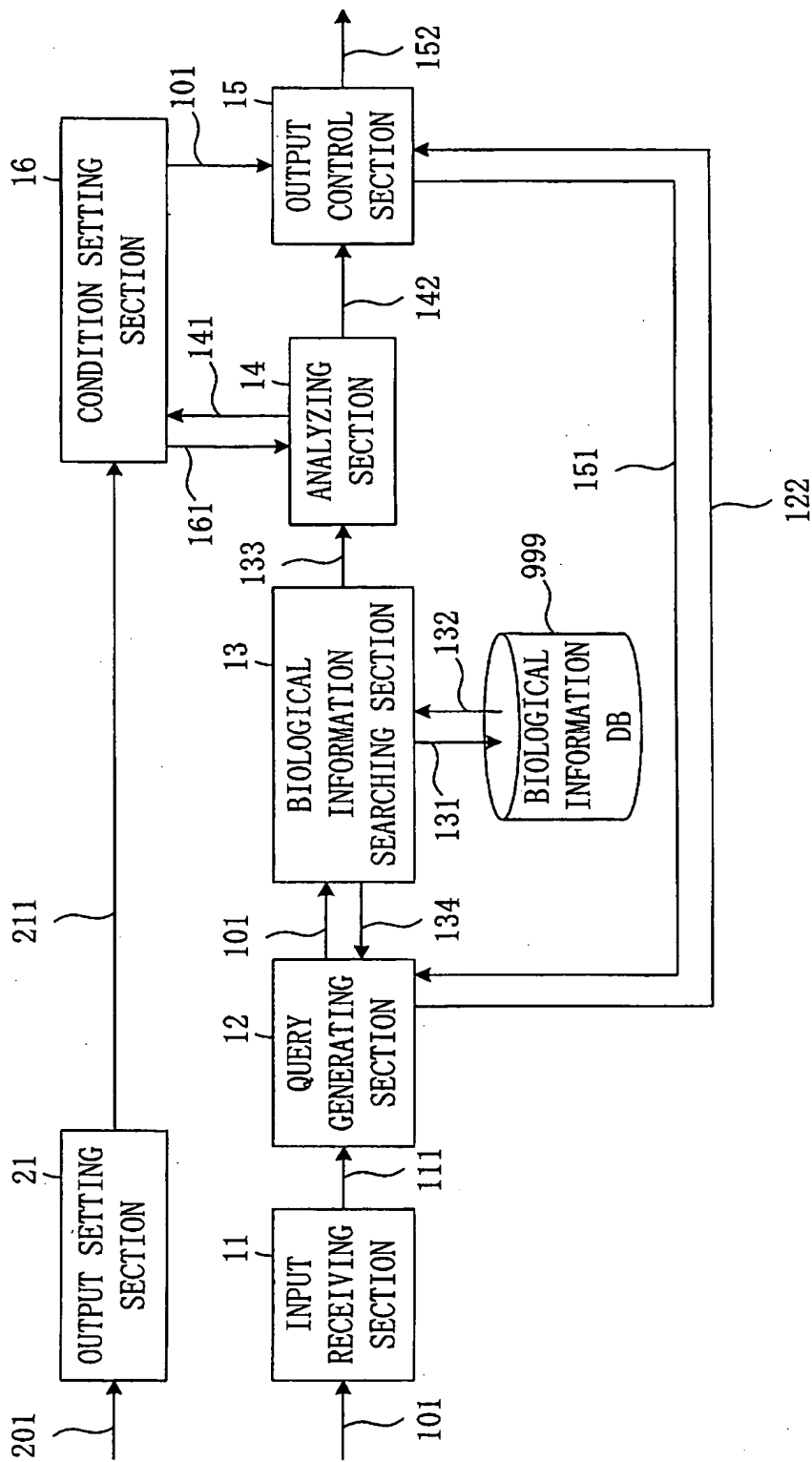


FIG. 16

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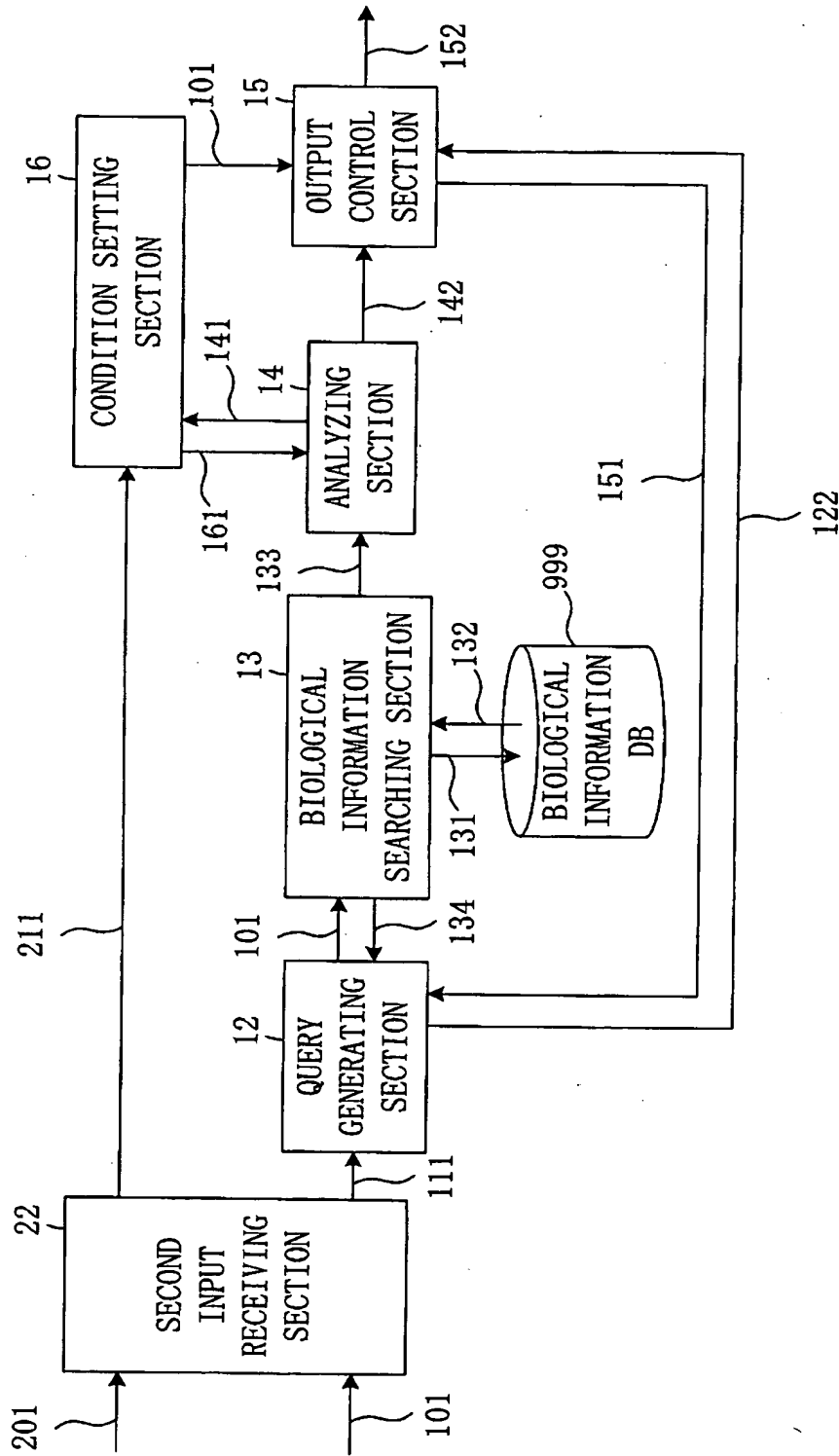


FIG. 17

Entrez ☒ name ☐ Accession No. ☐ Sequence

LocusLink ☒ name ☐ Accession No. (RefSeq) ☐ Accession No. (OMIM) ☐ Accession No. (Entrez) ☐ chromosome position

BLAST ☒ name ☐ Accession No. ☐ Sequence e-value

submit reset

FIG. 18

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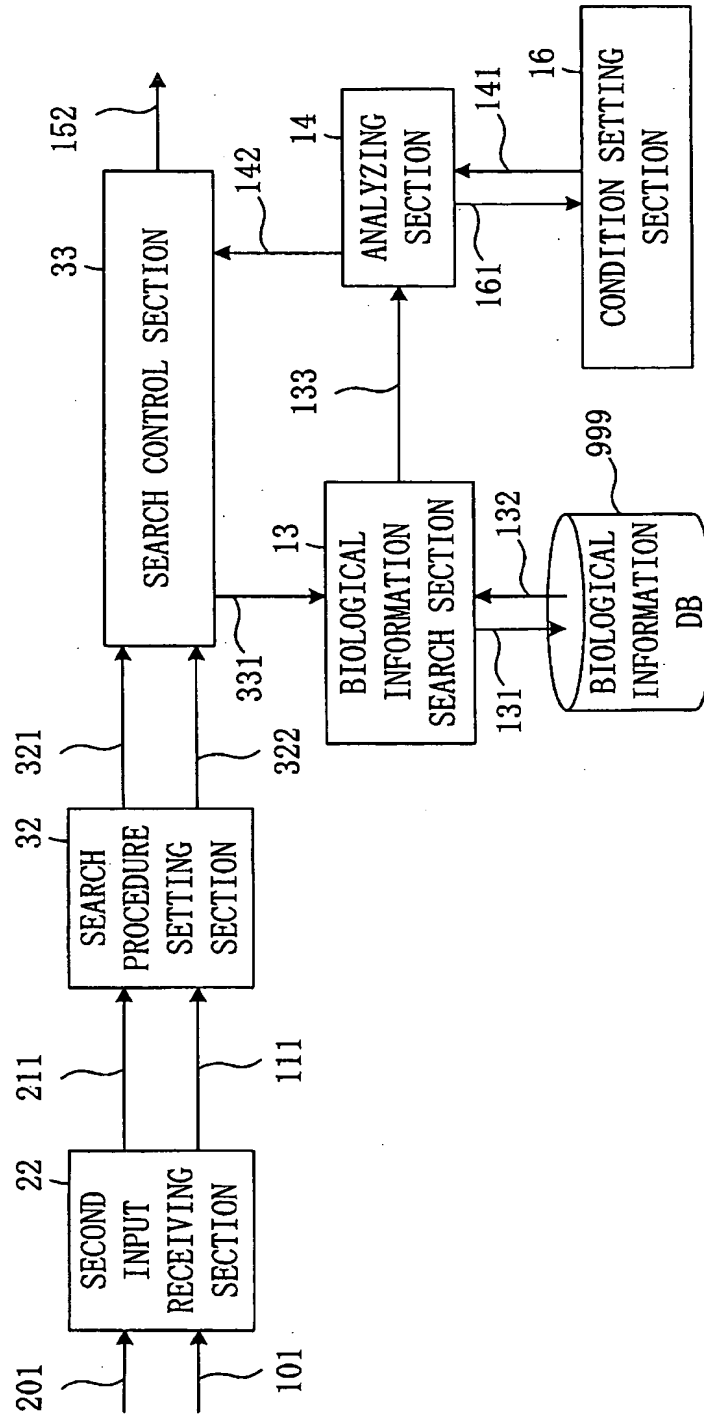


FIG. 19

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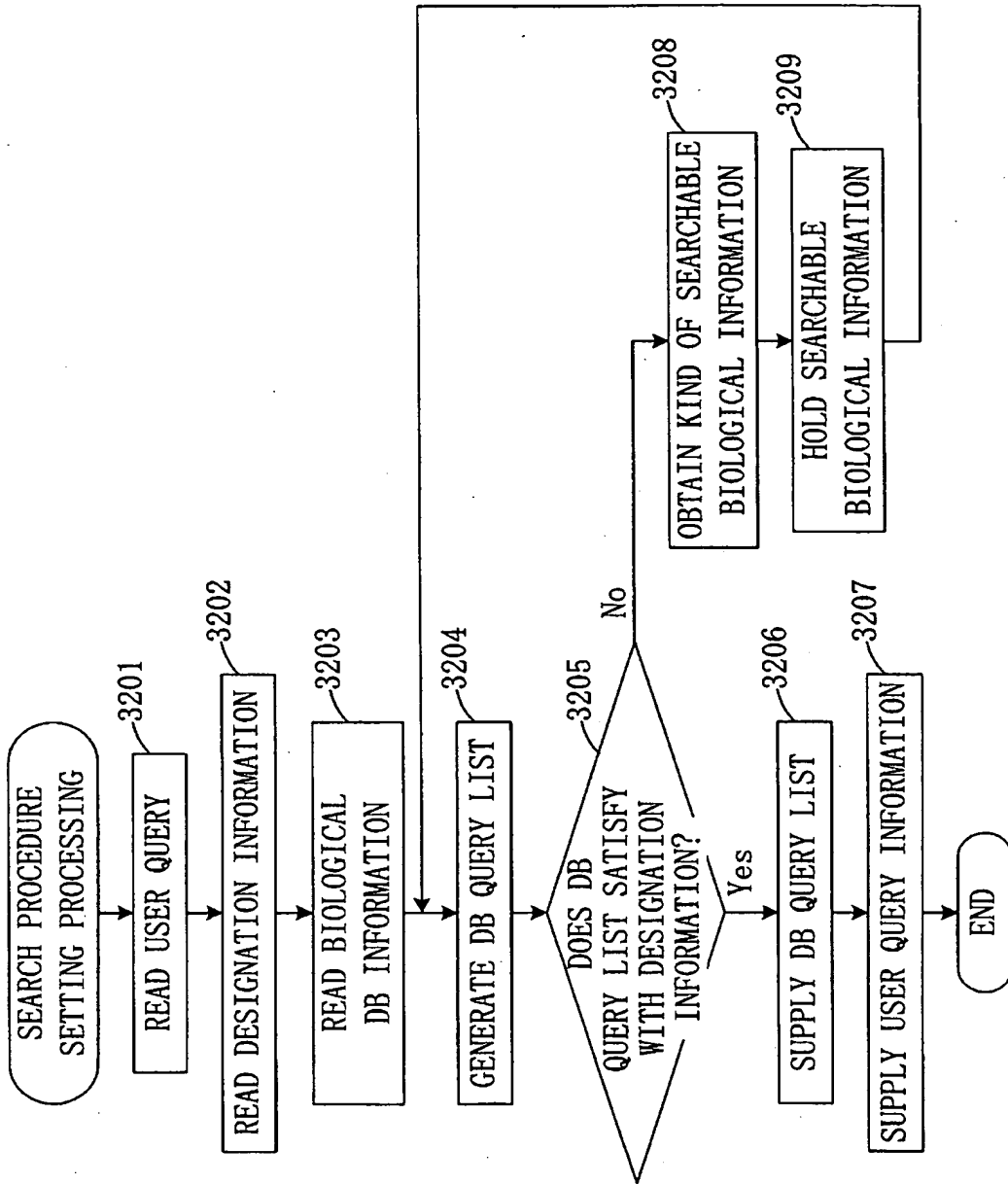


FIG. 20

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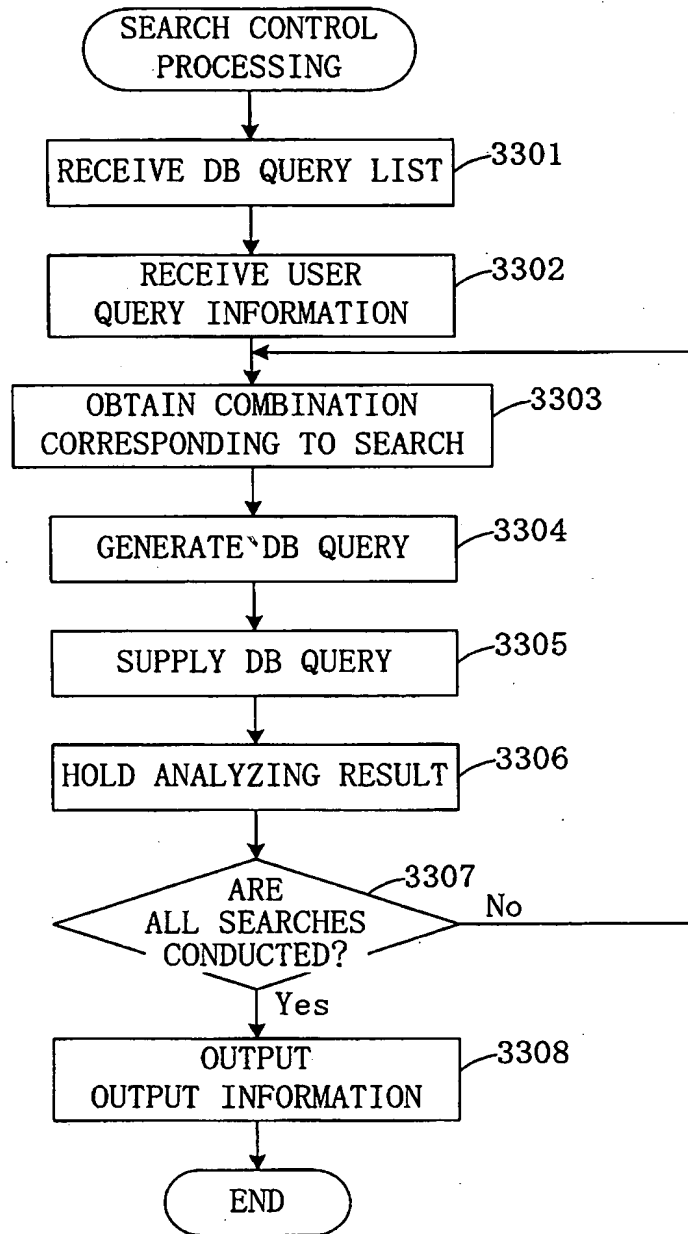


FIG. 21

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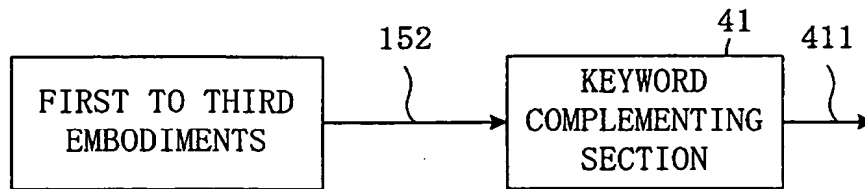


FIG. 22

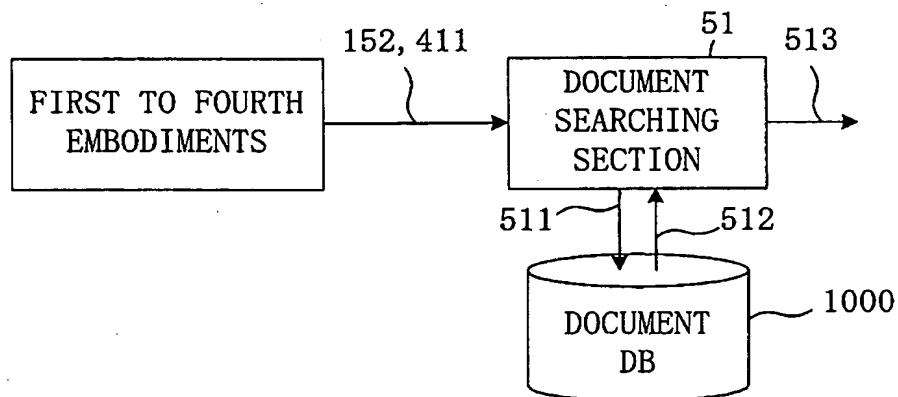


FIG. 23

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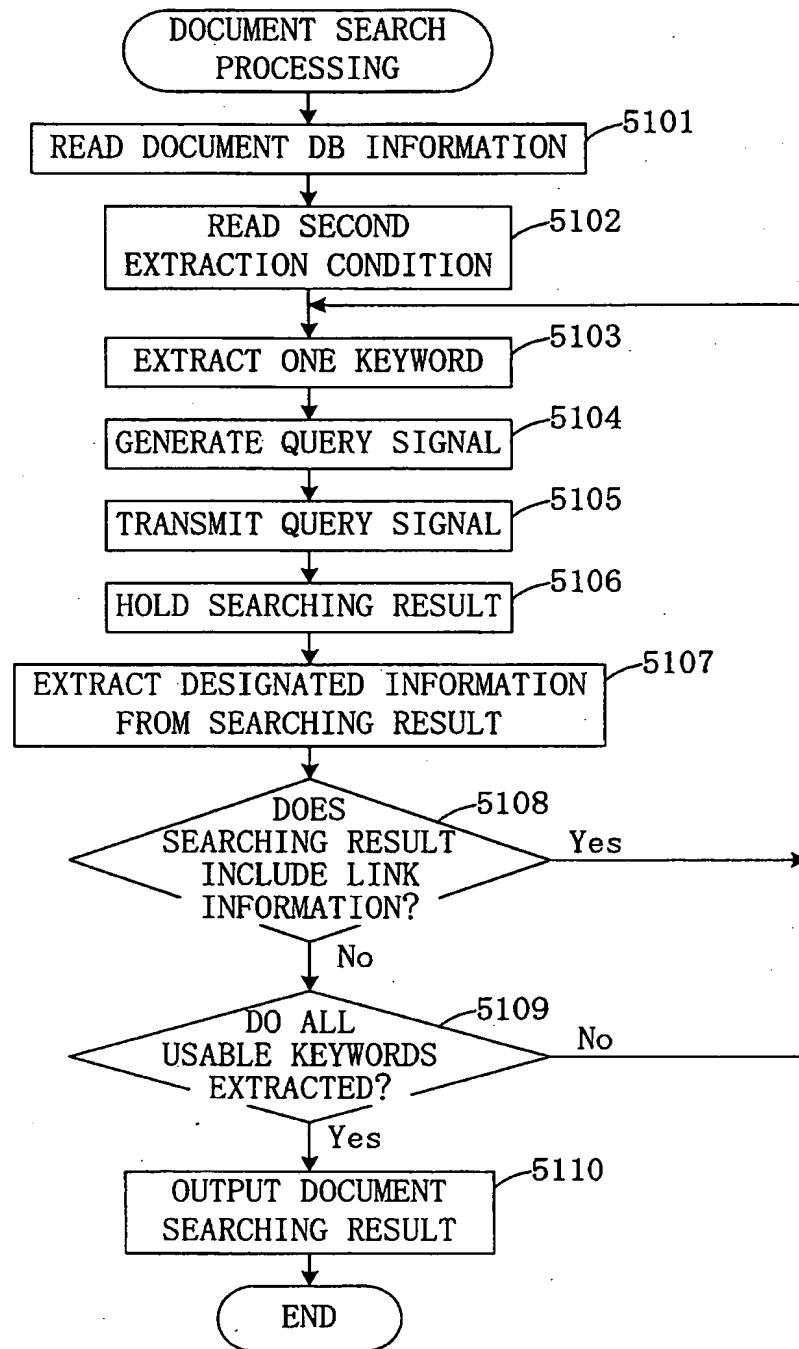


FIG. 24

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ICON	AUTHOR	TITLE	JOURNAL NAME, ISSUED DATE	ID NUMBER
<input type="checkbox"/>	1: Huland M, Kiern AG, Blomg RS, Coal P, Samuel JJ, Johan BR, Steel PK, Eneth K	Lack of pendrin expression leads to ... Development. 2000 Jun; 1:130 (0): 2013-2020 PMID: 12748323 [PubMed - as supplied by publisher]		
<input type="checkbox"/>	2: Grote B, Bieber J, Knuda S	Neonatal thyroid disorders. Horm Res. 2002; 83 Suppl 1: 32-8 PMID: 12284723 [PubMed - in process]		
<input type="checkbox"/>	3: Friesche M, Kwan HT, Froki M, Mad MK, Mielan A	Regulated expression of pendrin in rat. ... Physiol J. 2002 Apr; 283 (4): F384-83 PMID: 12444733 [PubMed - indexed for MEDLINE]		
<input type="checkbox"/>	4: Kono T, Nakagawa N, Suzuki M, Murakami S, Minami A, Kawai A, Kazawa R	Expression of human pendrin in ... J Histochem Cytochem. 2000 Jun; 48 (4): 137-42 PMID: 12487437 [PubMed - indexed for MEDLINE]		
<input type="checkbox"/>	5: Zame G, Bruna L, Knau H, Wang K, Fujii M, Ginzl D, Duh YH, Clark PD	Increasing the effectiveness of radioactive iodine therapy in ... Surgery. 2003 Dec; 133 (5): 885-94; discussion 890. PMID: 12473333 [PubMed - indexed for MEDLINE]		
	.			
	.			
	.			

FIG. 25

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<input type="checkbox"/> 1. Development. 2000 Jun. 1;130 (9). 2013-2020	JOURNAL NAME
Lack of pendrin expression leads to	TITLE
Huland M, Kiern AG, Blomq RS, Coal P, Samuel JJ, Johan BR, Steel PK, Enerb K	AUTHOR
Medical Genetics, Department of Biology, Institute of Biochemistry, Gomsorg University, Box 320, SE-240 30 Gomsorg, Sweden. MRC Institute of Research University Park, York, YK2 4RD, UK. Institute of Anatomy and Cell Biology. --	
Mice that lack the winged helix/forkhead gene --	SUMMARY
PMID:12746323 [PubMed - as supplied by publisher]	

FIG. 26

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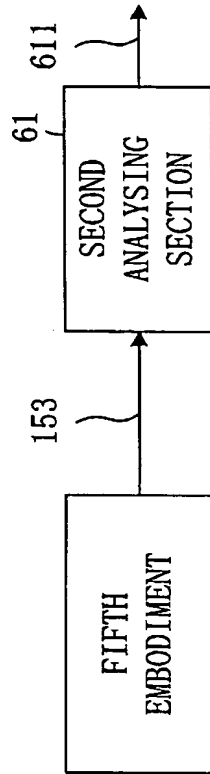


FIG. 27

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<input type="checkbox"/> 1. Huland M, Kiem AG, Blom RS, Coal P, Samuel JJ, Johan BR, Steel PK, Enerb K. Lack of pendrin expression leads to Development. 2000 Jun; 1130 (6): 2013-2020 PMID: 12746323 [PubMed - as supplied by publisher]	<p>EXAMPLE OF SCHOLARLY PAPER OBTAINED BY ONLY SEARCHING RESULT DUE TO PENDRIN</p>
<input type="checkbox"/> 2: Grote B, Bieber J, Knude S. Neonatal thyroid disorders. Horm Res. 2002; 83 Suppl 1: 32-8 PMID: 22284723 [PubMed - in process]	<p>EXAMPLE OF SCHOLARLY PAPER OBTAINED BY BOTH SEARCHING RESULT DUE TO PENDRIN AND SEARCHING RESULT DUE TO SLC26A4</p>
<input type="checkbox"/> 12: Billerme NS, Hill AJ. Prolactin regulation of the pendrin ⁻ iodide transporter in Physiol J. 2003 Feb; 322 (2): E34-8. PMID: 12384373 [PubMed - indexed for MEDLINE]	
<input type="checkbox"/> 13: Kamiński JA, Wang G, Enerb J, Green PE, Giebs G, Axon SO. Formate-stimulated NaCl absorption in of the pendrin protein. Physiol J. 2003 Nov; 331 (4): F874-83. PMID: 12248297 [PubMed - indexed for MEDLINE]	
<input type="checkbox"/> 14: Rot PP, Hirscheberg M, Maru S, Sasaki K, Roy RI, Green DE, Kon K, Lipoin J, Yen MP. Retention of pendrin in Hum Genet. 2002 Jan 1; 22 (45): 2813-32. PMID: 12157323 [PubMed - indexed for MEDLINE]	

FIG. 28

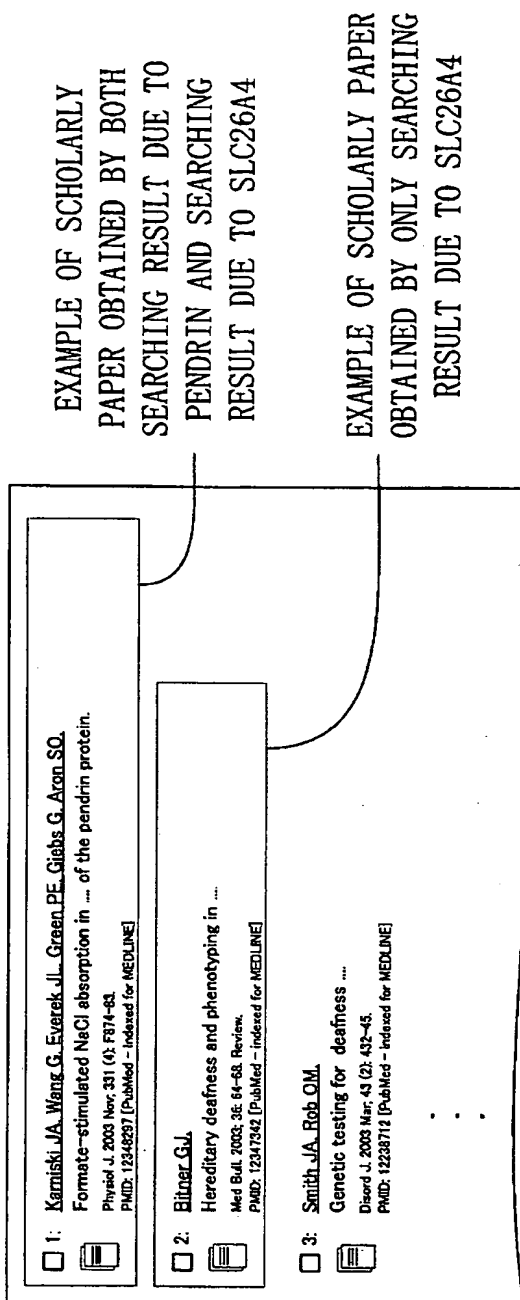


FIG. 29

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EXAMPLE OF SCHOLARLY PAPER
OBTAINED BY ONLY SEARCHING
RESULT DUE TO PENDRIN

☐ 1. Huland M, Kiem AG, Blom RS, Coal P, Samuel JJ, Johan BR, Steel PK, Enerb K.
Lack of pendrin expression leads to
Development. 2000 Jun; 1:130 (9): 2013-2020
PMID: 12748323 [PubMed - as supplied by publisher]

☐ 2: Grute B, Biebar J, Krude S.
Neonatal thyroid disorders.
Horm Res. 2002; 83 Suppl 1: 32-8
PMID: 23284733 [PubMed - in process]

☐ 12: Billme NS, Hill AJ.
Prolactin regulation of the pendrin- iodide transporter in ...
Physiol J. 2003 Feb; 322 (2): E34-8.
PMID: 12384373 [PubMed - indexed for MEDLINE]

☐ 13: Kaminski JA, Wang G, Everek JL, Green PE, Giebs G, Anon SO.
Formate-stimulated NaCl absorption in ... of the pendrin protein.
Physiol J. 2003 Nov; 331 (4): F874-83.
PMID: 12348287 [PubMed - indexed for MEDLINE]

☐ 14: Rot PP, Hirscheberg M, Maru S, Sasaki K, Roy RL, Green DE, Kon K, Lipin J, Yen MP.
Retention of pendrin in ...
Hum Genet. 2002 Jan; 111 (1): 2813-32.
PMID: 12357323 [PubMed - indexed for MEDLINE]

☐ 15: Bitner GJ.
Hereditary deafness and phenotyping in ...
Med Bull. 2003; 38: 64-68. Review.
PMID: 12347342 [PubMed - indexed for MEDLINE]

EXAMPLE OF SCHOLARLY PAPER
OBTAINED BY ONLY SEARCHING
RESULT DUE TO SLC26A4

FIG. 30

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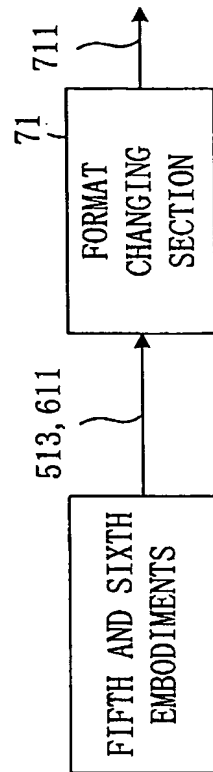


FIG. 31

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<p>***KEYWORD*** pendrin</p> <p>***Another Name*** [GenBank] •PDS [LocusLink] •SLC26A4 •solute carrier family 26, member 4 •PDS •DFNB4 •SLC26A6 •solute carrier family 26, member 6 •DKFZp586B1442 [BLAST] •down regulated in adenoma •down regulated in adenoma protein •sulfate anion transporter 1 •diastrophic dysplasia</p>	<p>Thyroid 2002 Jan; 12 (3): 849-54</p> <p>Expression of nicotinamide adenine dinucleotide phosphata oxidase</p> <p>Lacro J, Nocer M, Minor G, Caillie J, Viciore B, David C, Fieletti M, Bidart GP. Department of Biochemistry, Institute of Medical Genetics, France.</p> <p>Dioxin2, and probably Dioxin1 are ...</p> <p>... of sodium iodide symporter (NIS), pendrin and ...</p> <p>PMID: 11738123 [PubMed - indexed for MEDLINE]</p> <p>Thyroid 2002 Jan; 12 (3): 849-54</p> <p>Update on intrathyroidal iodine</p> <p>Dun A, Samuel EL Department of Medicine, Institute of Biochemistry, USA. dune@xxx.edu</p> <p>The thyroid concentrates iodide from the serum and ...</p>
--	--

DISPLAY SUMMARY
OF DOCUMENT IN
FORM OF LIST

CHANGE DISPLAY
COLOR OF KEYWORD

DISPLAY GENE OR
PROTEIN BYNAME

FIG. 32